CLAIMS

What is claimed is:

1. A therapeutic composition comprising a solid porous matrix comprising random aggregates of a polysorbate surfactant and a therapeutic.

2. A therapeutic composition according to claim 1 wherein said composition is in a physical state selected from a dried state and a liquid state.

3. A therapeutic composition according to claim 2 wherein said composition is in a liquid state.

4. A therapeutic composition according to claim 3 wherein said liquid state further comprises a resuspending medium.

5. A therapeutic composition according to claim 4 wherein said resuspending medium is selected from the group consisting of an aqueous medium and an organic medium.

6. A therapeutic composition according to claim 5 wherein said aqueous medium is selected from the group consisting of water, buffer, physiological saline, and normal saline.

7. A therapeutic composition according to claim 1 further comprising an additive selected from the group consisting of polyethylene glycol, sucrose, glucose, fructose, mannose, trebalose, glycerol, propylene glycol and sodium chloride.

8. A therapeutic composition according to claim 7 wherein said additive is selected from the group consisting of polyethylene glycol and sucrose.

9. A therapeutic composition according to claim 8 wherein said additive is polyethylene glycol.

10. A therapeutic composition according to claim 9 wherein said polyethylene glycol is PEG-400.

11. A therapeutic composition according to claim 1 wherein said polysorbate surfactant is selected from the group consisting of polysorbate 20, polysorbate 40, polysorbate 60 and polysorbate 80.

12. A therapeutic composition according to claim 9 wherein said polysorbate surfactant is polysorbate 80.

13. A therapeutic composition according to claim 1 wherein said therapeutic is selected from the group consisting of antineoplastic agents, blood products, biological response modifiers, antifungal agents, β-lactam antibiotics, hormones, vitamins, peptides, enzymes, antiallergic agents, anticoagulation agents, circulatory drugs, antituberculars, antivirals, antianginals, antibiotics, antiinflammatories, antiprotozoans, antirheumatics, narcotics, cardiac glycosides, neuromuscular blockers, sedatives, anesthetics, radioactive particles, monoclonal antibodies, and genetic material.

14. A therapeutic composition according to claim 13 wherein said antineoplastic agent is selected from the group consisting of platinum compounds, adriamycin, mitomycin, ansamitocin, bleomycin, cytosine arabinoside, arabinosyl adenine, mercaptopolylysine, vincristine, busulfan, chlorambucil, melphalan, mercaptopurine, mitotane, procarbazine hydrochloride, dactinomycin, daunorubicin hydrochloride, doxorubicin hydrochloride, taxol, mitomycin, plicamycin, aminoglutethimide, estramustine phosphate sodium, flutamide, leuprolide acetate, megestrol acetate, tamoxifen citrate, testolactone, trilostane, amsacrine, asparaginase, etoposide, interferon, teniposide, vinblastine sulfate, vincristine sulfate, bleomycin, methotrexate, and carzelesin.

15. A therapeutic composition according to claim 14 wherein said antineoplastic agent is taxol.

16. A therapeutic composition according to claim 13 wherein said therapeutic is selected from the group consisting of ketoconazole, nystatin, griseofulvin, flucytosine, miconazole, amphotericin B, ricin, and β-lactam antibiotics.

17. A therapeutic composition according to claim 16 wherein said therapeutic is amphotericin B.

18. A therapeutic composition according to claim 17 wherein said solid porous matrix is between about 100 nm and 2 microns in diameter.

19. A solid porous matrix comprising a surfactant in combination with a therapeutic prepared by combining a solvent, a surfactant, and a therapeutic to form an emulsion comprising random aggregates of said surfactant and said therapeutic; and processing said emulsion by controlled drying or controlled agitation and controlled drying, to form said solid porous matrix.

20. A solid porous matrix according to claim 19 wherein said solvent is evaporated during said processing.

21. A solid porous matrix according to claim 19, wherein said surfactant is selected from the group consisting of polysorbate 20, polysorbate 40, polysorbate 60 and polysorbate 80.

22. A solid porous matrix according to claim 21 wherein said polysorbate surfactant is polysorbate 80.

23. A solid porous matrix according to claim 19 wherein said therapeutic is selected from the group consisting of antineoplastic agents, blood products, biological response modifiers, antifungal agents, β-lactam antibiotics, hormones, vitamins, peptides, enzymes, antiallergic agents, anticoagulation agents, circulatory drugs, antituberculars, antivirals, antianginals, antibiotics, antiinflammatories, antiprotozoans, antirheumatics, narcotics, cardiac glycosides, neuromuscular blockers, sedatives, anesthetics, radioactive particles, monoclonal antibodies, and genetic material.

24. A solid porous matrix according to claim 23 wherein said antineoplastic agent is selected from the group consisting of platinum compounds, adriamycin, mitomycin, ansamitocin, bleomycin, cytosine arabinoside, arabinosyl adenine, mercaptopolylysine, vincristine, busulfan, chlorambucil, melphalan, mercaptopurine, mitotane, procarbazine hydrochloride, dactinomycin, daunorubicin hydrochloride, doxorubicin hydrochloride, taxol, mitomycin, plicamycin, aminoglutethimide, estramustine phosphate sodium, flutamide, leuprolide acetate, megestrol acetate, tamoxifen citrate, testolactone, trilostane, amsacrine, asparaginase, etoposide, interferon, teniposide, vinblastine sulfate, vincristine sulfate, bleomycin, methotrexate, and carzelesin.

25. A solid porous matrix according to claim 24 wherein said antineoplastic agent is taxol.

26. A solid porous matrix according to claim 23 wherein said therapeutic is selected from the group consisting of ketoconazole, nystatin, griseofulvin, flucytosine, miconazole, amphotericin B, ricin, and β-lactam antibiotics.

27. A solid porous matrix according to claim 26 wherein said therapeutic is amphotericin B.

28. A solid porous matrix according to claim 19, having a diameter of between about 100 nm and 2 microns.

29. A method of preparing a solid porous matrix comprising a surfactant and a therapeutic, said method comprising:

a. combining a solvent, a surfactant, and a therapeutic to form an emulsion comprising random aggregates of said surfactant and said therapeutic; and

b. processing said emulsion by controlled drying, or controlled agitation and controlled drying, to form a solid porous matrix.

30. A method according to claim 29, wherein said surfactant is selected from the group consisting of polysorbate 20, polysorbate 40, polysorbate 60 and polysorbate 80.

31. A method according to claim 30 wherein said polysorbate surfactant is polysorbate 80.

32. A method according to claim 29 wherein said controlled drying is selected from the group consisting of lyophilizing, spray drying, or any combination thereof.

33. A method according to claim 29 further comprising adding said solid porous matrix to a resuspending medium.

34. A method according to claim 33 wherein said resuspending medium is selected from the group consisting of an aqueous solution or an organic solution.

35. A method of claim 34 wherein said resuspending medium comprises an additive selected from the group consisting of polyethylene glycol, sucrose, glucose, fructose, mannose, trebalose, glycerol, propylene glycol, and sodium chloride.

36. A method according to claim 35 wherein said additive is selected from the group consisting of polyethylene glycol and sucrose.

37. A method according to claim 36 wherein said additive is polyethylene glycol.

38. A method according to claim 37 wherein said polyethylene glycol is PEG-400.